

Summary report on Koh Rong and Koh Rong Samloem Fishing Communities

Socio-demographic report on Koh Rong Samloem, Koh Toch, Daem Thkov, Prek Svay and Koh Toch communities, Preah Sihanouk.

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Contents

Tables & Figures	3
List of Abbreviations.....	3
Introduction.....	4
I. Site description.....	5
II. Objectives of the assessment and methodology	5
III. Results	6
a. Community Demographics	6
1. Age and gender	6
2. Migration, Ethnicity and Religion	8
3. Education.....	9
4. Occupations / Activities / Sources of income.....	10
b. Community Infrastructures	11
1. Overview.....	11
c. Fishing Activities	12
1. Types of boats	12
2. Main Targeted Species & Fishing Gears	15
3. Most common catches	17
4. Market orientation and households' consumption	17
5. Perception of fisheries resource conditions.....	18
d. Threats and Issues to marine resources & perceived resource-use conflicts.....	18
e. Tourism.....	20
Conclusion	21
Appendix 1 – Map of Koh Rong Samloem Community Fishing Area	23

Appendix 2 – Location of the fishing communities living on Koh Rong and Koh Rong Samloem (<i>Sok San is not officially registered with the Ministry of Interior</i>).....	24
Appendix 3 – Identified threats to marine ecosystem and fisheries resources, per community.	25
Appendix 4 - Targeted species and most common catches around Koh Rong and Koh Rong Samloem....	26

Tables & Figures

Table 1- Community demographics: households, population & gender	6
Table 2 - Age range within the four communities (%).	7
Figure 1- Population & gender within the four communities	7
Figure 2 - Age range within the four communities	7
Figure 3 – Education rate within the four communities	9
Figure 4 – Percentage of fishing-related activities per community	10
Figure 5 – Types of fishing boats, per community (%). Data were not recorded for Prek Svay.	12
Figure 6 - Main target species per community	15
Figure 7 – Fishing gears per community (Prek Svay excluded)	16
Figure 8 – Fishing gears recorded within Prek Svay community (per main target species).....	17

List of Abbreviations

CFi	Community Fishery
CFA	Community Fishing Area
FACT	Fisheries Action Coalition Team
FiA	Fisheries Administration
FCD	Fisheries Conservation Department
HH	Household
ICM	Integrated Coastal Management
KRS	Koh Rong Samloem
MAFF	Ministry of Agriculture, Forestry and Fisheries
MCC	Marine Conservation Cambodia
MFMA	Marine Fisheries Management Area

Introduction

The FiA-registered Community Fisheries around the islands of Koh Rong and Koh Rong Samloem have been working towards conservation over the past few years, with the support of the FiA, relevant local authorities (local fisheries committees, Sangkat and local police) and other partner organizations. The introduction of the Community Fishing Area (CFA) around the islands of Koh Rong Samloem and Koh Koun, reaching the southern shore of Koh Rong, has had a great influence on the protection of reefs and surrounding habitats with community patrols cracking down on illegal and destructive fishing techniques such as dynamite, cyanide fishing and coral harvesting. The monitoring is beginning to show the effectiveness of community protection, although major issues such as illegal inshore trawling and limited law enforcement still constitute a significant threat to the conservation and sustainable use of marine resources.

In order to conserve marine resources on a long-term scale, biodiversity approach and socio-economic approach need to be fully integrated within the creation and management of the MFMA (Marine Fisheries Management Area) and its associated Zoning Plan. It is essential that relevant government departments collect all necessary information on the communities that will be directly affected by the creation of the MFMA and Zoning Plan, that is to say the communities residing on Koh Rong and Koh Rong Samloem namely Koh Rong Samloem Community Fishery (CFi), Koh Toch, Prek Svay and Daem Thkov. This report is a short summary of the socio-demographic surveys that were undertaken in the previously mentioned communities. Full reports on specific communities, including detailed methodology, are available upon request at the FiACD, as well as specific marine environmental assessments of the area:

- B. Krell, M. Skopal. *Koh Rong Samloem and Koh Kon Marine Environmental Assessment, Preah Sihanouk Province - Report on Marine Resources and Habitats*. MCC May 2011.
- M. Skopal. *Koh Rong Samloem Community Fishery, Socio-Demographic Survey – April 2011 update*. MCC July 2011.
- M. Skopal. *Koh Toch Community, Koh Rong, Preah Sihanouk Province – Socio-demographic Survey*. MCC July 2011.
- S. Kim, M. Skopal. *Daem Thkov Community Fishery, Socio-Demographic Survey*. FiA-FCD / MCC June 2011.
- S. Sophat, H. Sereivathanak Reasey. *Socio-economic Monitoring of Coral Reef in Koh Rong Island, Preah Sihanouk Province, Cambodia*. FACT April 2010.

I. Site description

Koh Rong, Koh Koun and Koh Rong Samloem (KRS) are predominantly covered by dense humid forest where a rich biodiversity can be observed. Among the most significant species (flora and fauna): orchids, water dragons (*Physignathus cocincinus*), monkeys, and Hornbill. Many species of snakes are also encountered, as well as an infinite numbers of insects, arachnids and invertebrates.

KRS Community Fishing Area (CFA) surrounds the island of KRS, Koh Koun, and stretches to the southern shores of Koh Rong (*Appendix 1*). The tropical reefs, mainly fringing reefs, provide a unique marine environment which allows the presence of a great biodiversity. Benthic habitats such as seahorse breeding grounds are also to be found as they constitute an extremely fundamental part of the marine ecosystem where a range of macro life can be observed. The area also encompasses seagrass and mangrove ecosystems therefore contains representative habitats of whole shore to intertidal environments and from coral reefs to deep water environments. The area has recently and increasingly become the focus of Sihanoukville diving industry as dive operators now use the area all year long.

While Koh Koun is inhabited, Koh Rong and KRS hosts 4 registered communities: Koh Rong Samloem, Daem Thkov and Prek Svay CFI, Koh Toch community (*Appendix 2*), along with naval/military outposts. **The four registered communities account for an estimated total of 1633 inhabitants** (*Table 1*). Both islands have been leased for development by Hong-Kong based firm LimeTree Capital (KRS) and Millennium Group (Koh Rong).

II. Objectives of the assessment and methodology

Socio-economic monitoring of coral reef and fisheries resources are essential initial steps in the MFMA creation process and success. By conducting surveys in Koh Rong and Koh Rong Samloem, the social and economic data collected will allow:

- Integrating requirements of marine ecosystems with the need of the people who depend upon fisheries resources. If these social and economic criteria are not taken into account, the MFMA

and its Zoning Plan will be created from a single sector management view and will eventually lead to a significant number of resource use conflicts.

- Collecting all necessary data, including information on fishing gears, techniques and target species, in order to establish a clear and well-defined Zoning Plan that is to say a spatial (or temporal) allocation of specific uses and activities to well-defined areas within the larger MFMA. A multiple-use zoning scheme will allow reducing competition and conflicts between human uses of the area while still allowing for conservation.
- Getting a clear picture of people's needs, expectations and perceived issues related to fisheries resource management in their area. This will allow exploring possibilities of alternative sources of income that would contribute decreasing anthropogenic pressure on fisheries resources, especially through marine ecotourism.

The questionnaires were divided into different parts focusing on household structure, occupations, fishing habits as well as tourism development. General indicators were chosen then applied to the social, political and environmental context of the studied community. Two CFi Trainees (Koh Rong Samloem) were assigned to assist in conducting the household surveys between April and May 2011.

III. Results

a. Community Demographics

1. Age and gender

	KOH RONG SAMLOEM	KOH TOCH	DAEM THKOV	PREK SVAY
Households	43	81	89	148
Women	106	177	209	319
Men	144	162	188	359
TOTAL	220	339	397	697
GRAND TOTAL	1633			

Table 1- Community demographics: households, population & gender

Gender Composition per community

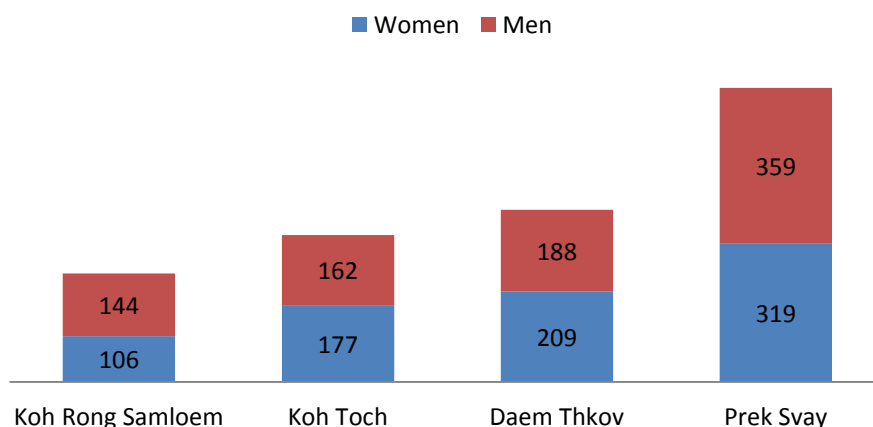


Figure 1- Population & gender within the four communities

	Koh Rong Samloem	Koh Toch	Daem Thkov	Prek Svay
0 – 18 years old	39,5	38,8	45	25
19 – 30	29,1	26,1	28	15
31 – 50	20,9	26,9	21	45
Over 50	10,5	8,2	6	15

Table 2 - Age range within the four communities (%)

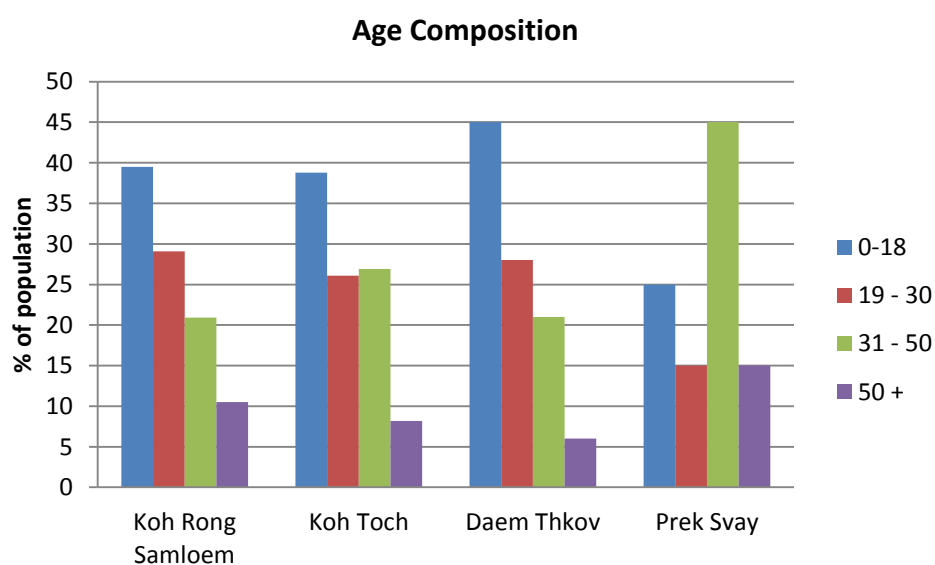


Figure 2 - Age range within the four communities

- Gender composition seems in general quite even between males and females (*Table 1, Figure 1*).
- The age composition is similar in Koh Rong Samloem, Koh Toch and Daem Thkov, showing a very young population with an average of 41 % under 18 years old and 28 % between 19 and 30 years. Thus, the labor force of the working population (19-30 years old) is relatively high; yet the high percentage of under 18 years old involves efforts to be made towards education and capacity building in order to allow them using their resources in a sustainable way and coping with rapid socio-economic changes brought by tourism (*Table 2, Figure 2*).
- Prek Svay seems to differ from the other with a relatively low range of 19-30 years old, which would place most working households in a difficult position.

2. Migration, Ethnicity and Religion

Immigration

The history of island settlement is closely related to the history of the country and the displacements/returns of people during and after Pol Pot regime. In the late 80's, early 90's 1990, many people immigrated into the island from many provinces of the country, most of them from Preah Sihanouk, Kampot, as well as Prey Veng. The main reason to this resettlement on the islands was to change occupation and improve their livelihood, with many people looking for better fishing grounds.

After 2000, the migration rate was generally relatively low, because people realized that fishery and island forest resources were no longer free and available, along with serious issues related to illegal and destructive fishing affecting small-scale fishermen. Indeed, the immigration flow slowed down and in some cases even reversed (cases of emigration), when fisheries stocks and catches dropped down along with the arrivals of trawlers operating in the inshore areas. Further increase in tourism is expected to draw further people to the island, including community members' relatives coming back to the family house attracted by tourism-related job opportunities.

Ethnicity and religion

The great majority of the population inhabiting the island is Khmer and Buddhist. A few representatives from the Cham community (Muslim) were recorded within the samples. However, the presence of other

ethnicities such as or Vietnamese or Thai (a few were recorded as well), although most likely representing a very low percentage of the population, shall not be excluded.

3. Education

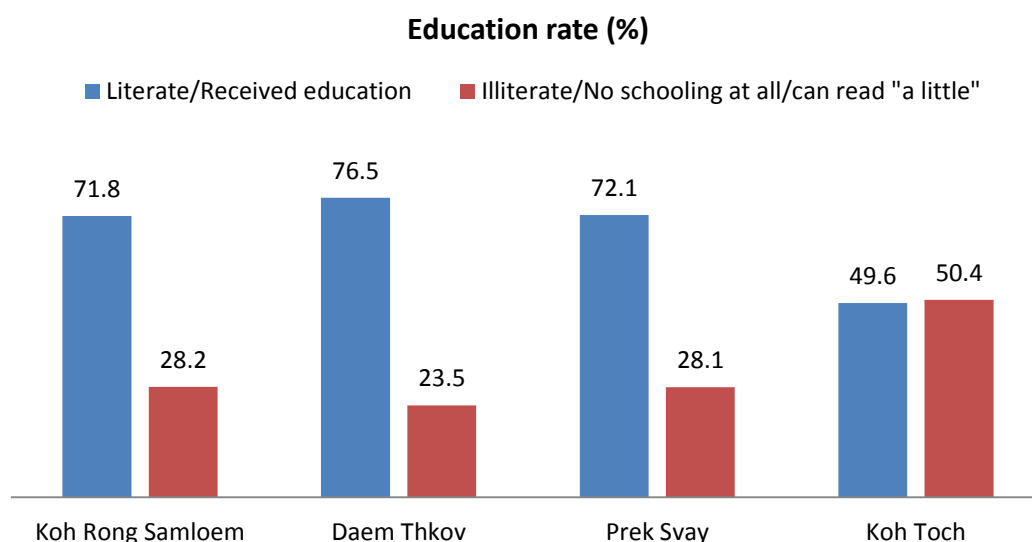


Figure 3 – Education rate within the four communities

- There are primary schools in Daem Thkov, Prek Svay, Koh Toch and Sok San communities. In addition, two pre-primary schools (kindergarten) are also available in Daem Thkov and Prek Svay. Koh Rong Samloem has a primary school as well as English classes provided by island-based foreign-owned business. However, there is neither secondary school nor high school on neither islands. Students willing to continue to these levels have to go to Sihanoukville or Koh Kong provincial town.
- In Koh Toch, several persons raised the issue of the teachers' absenteeism and the difficulty to find teachers from Kampong Som willing to move to the island: *"the teacher comes for three days, leave for ten days, then comes back for another few days, etc."*. While the other villages With almost 40 percent of the population under 18 year olds, about 65 percent under 30 years old, Koh Toch faces a relatively low literacy rate and a lack of educational infrastructure and resources. This might constitute a serious challenge for the community as increasing tourism will require local people to be educated and train in order to benefit from employment opportunities.

4. Occupations / Activities / Sources of income

Despite an increase in local tourism flow over the past three years that allowed the people to diversify their sources of income, community livelihoods still largely depends on fisheries-related activities.

- Fishing-related activities add up to a total of 46 percent of the population within the four communities, including fishing, trap making and trade, thus showing the great dependence of the community upon the availability of fisheries resources. The results for Prek Svay and Koh Toch are however lower (under 50 %) than Koh Rong Samloem and Daem Thkov CFI (respectively 56 and 67 %) (*Figure 4*).

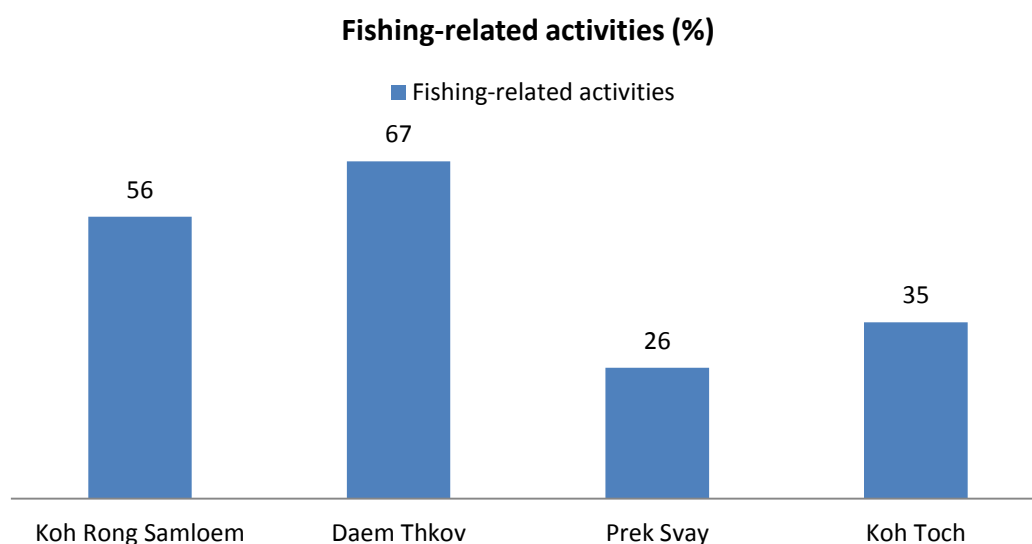


Figure 4 – Percentage of fishing-related activities per community

- Tourism-related activities are greatly heterogeneous in term of flux of visitors and degree of tourism development management with some villages being advanced in ecotourism process (KRS CFI) while other can be said to have not yet received any form of tourism (Daem Thkov).
- Activities are also related to commerce: bars, family shops, food sellers. In some communities such as KRS CFI, this percentage has been increasing along with local tourism as there were only two bars/shops in the village two years ago compared to a dozen of them today. There is no public market on the island: sales and purchases take place at family shops.

- Other activities include construction workers, teachers and soldiers. Yet, it is not rare that people are involved in different activities: one can be fisherman during most of the year, yet become boat carpenter/construction worker when the weather limits the fishing activity. Also, in Prek Svay for instance, fishing and farming were found to be interchangeable economic activities of most households in the village, following the seasons.

b. Community Infrastructures

1. Overview

Due to distance, isolation from the mainland and their small population, both islands have yet to be developed. On Koh Rong Samloem, there is a quasi-absence of infrastructures. From local observations, there are no roads, only a few small paths through the jungle to access the military outpost as well as a NGO-funded primary school. There are four businesses on the island: Marine Conservation Cambodia, M'Pay Bay Bungalows, Sihanoukville-based dive operators EcoSea and Island Divers, all located within Koh Rong Samloem CFI. Lazy Beach Bungalows, located in a sheltered bay on the western part of the island.

Comparatively, Koh Rong has no heavy infrastructure. After the island was leased to private development companies, touristic infrastructures, including road network, have been started and will be completed over the next years, thus benefiting local communities. As for now, boat is the main means of transportation although a few motorbikes are now using the dirt road starting at Daem Thkov. A primary school, a referral clinic, a commune (Sangkat) office and communal police office are found around the community as well as telecommunication antennas operated by Mobitel (012), Mfone (011) and Hello (016). Koh Toch counts at least 5 tourist operators: a Sihanoukville-based dive center, at least three bungalow companies (Monkey Island, Paradise Bungalows and Tree Bungalows), as well as a few smaller businesses.

Each community has one or several piers used to unload fisheries products, commodities brought from Sihanoukville as well as tourists visiting the island.

There is no regular electricity supply on the islands; small diesel generators are run by a relatively low percentage of the community members, mostly by people owning businesses. Generators run on average from nightfall (around 6:30pm) to 10pm.

c. Fishing Activities

1. Types of boats

Long-tails constitute the dominant type of fishing boat. Paddle-boats (*Photo 1*) play an important role within KRS CFI. Ko Yon boats were recorded in Daem Thkov.

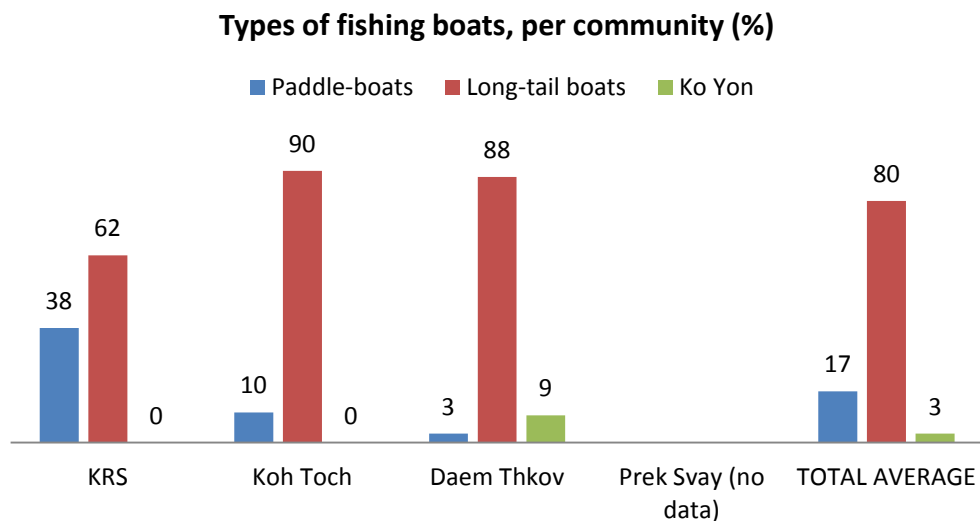


Figure 5 – Types of fishing boats, per community (%). Data were not recorded for Prek Svay.

Since paddle-boats are entirely part of the fishing activity within KRS CFI, we decided to record the data the same way as we did for the other boats. Paddle-boats, made of bamboo and polystyrene, are mostly used by children but also sometimes by men and women. Paddle-boats are an economic alternative to long-tail boats as they avoid gasoline expenses.



Photo 1 - Paddle-boats in KRS CFI

2. Main Targeted Species & Fishing Gears

Main Targeted species

There is a clear heterogeneity between communities relating to the main targeted species (*Figure 6*). While KRS CFi is known to be a “squid fishing” village (77% of fishermen practice squid fishing), Koh Toch and Prek Svay seems to focus on crab fishing (79 and 54%, respectively). Crab fishing still dominates in Daem Thkov yet squid and fish also play an important role (26 and 29% of fishermen) (*Table 3*). In total, crab fishing ranks first (45% of interviewed fishermen), squid second (33%), followed by fish (22%).

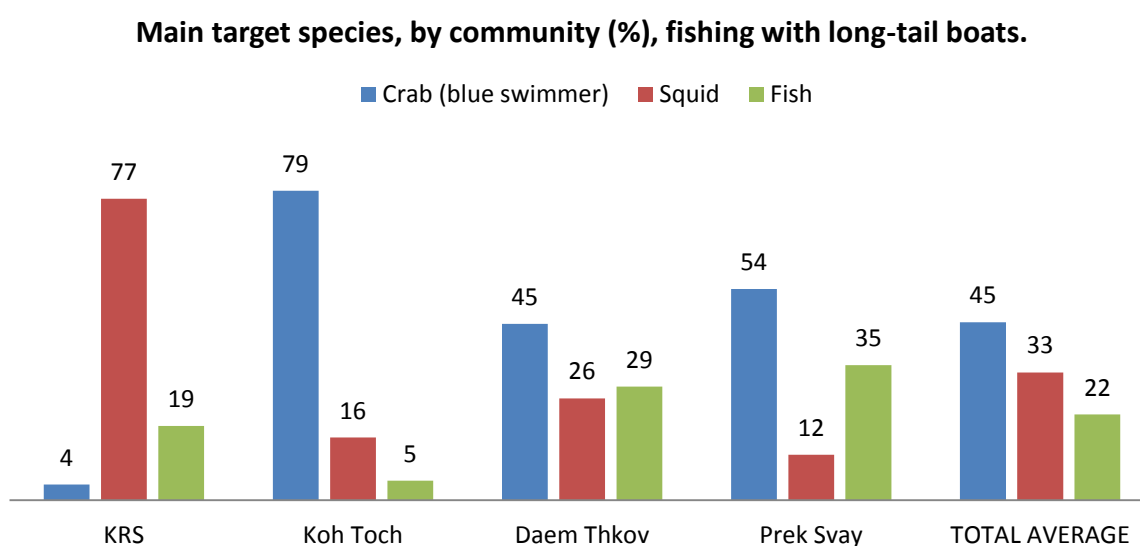


Figure 6 - Main target species per community

- Paddle-boats target mainly squid, with the occasional fish catch, usually for family consumption.
- Ko Yon boats recorded in Daem Thkov were targeting crab at 100%.

Fishing gears

There clearly is heterogeneity in the types of fishing gears used by communities: squid lines dominate in KRS (86,5% of recorded fishermen), while Koh Toch uses mostly crab nets (79%) and Daem Thkov crab traps (48%) (*Figure 7*).

It is important to note the relatively widespread use of crab nets, in Koh Toch especially. Crab nets are bottom weighted nets that can be several kilometers long. They have a significant impact on the

ecosystem as they collect not only crabs, but also corals, undersized fish and endangered species such as seahorses (*Photo 2 and 3*). The use of crab nets will most likely represent a challenge to the creation of a Marine Fisheries Management Area as this type of destructive gear should not be allowed within any type of protected area.



Photo 2 & Photo 3 – Crab net by-catch and endangered seahorse caught in a net.

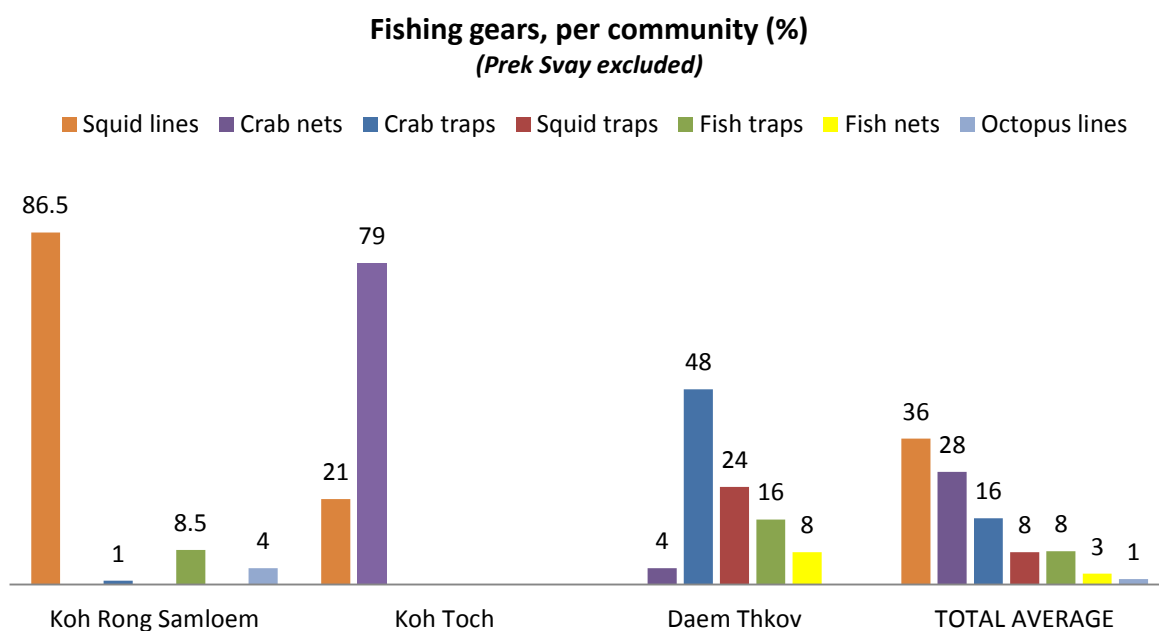


Figure 7 – Fishing gears per community (Prek Svay excluded)

In the methodology used by FACT in Prek Svay survey, fishing gears were recorded per target species, which does not allow us to evaluate and anticipate the impact of each gears on the resource and

ecosystems (e.g.: here, crab traps and crab nets are treated in the same unit whereas they have distinctive different impact on the ecosystem). As such, Prek Svay was treated separately from the other communities (*Figure 8*).

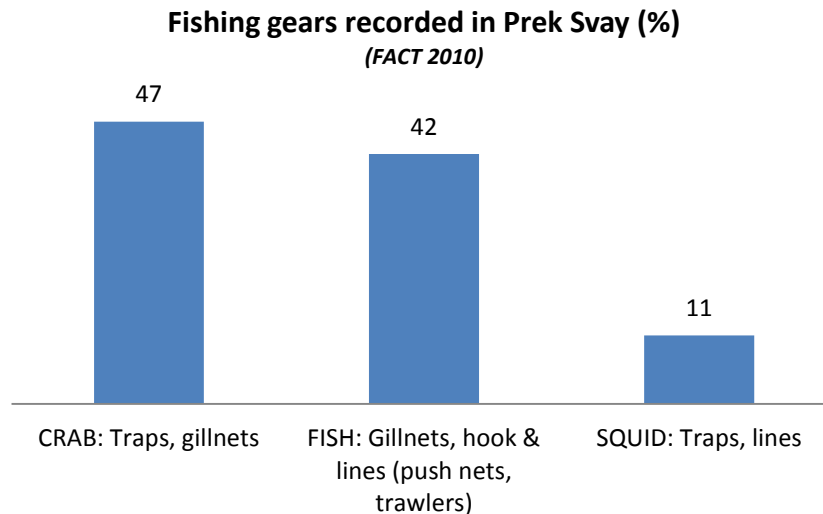


Figure 8 – Fishing gears recorded within Prek Svay community (per main target species)

3. Most common catches

Sepia sp. is the most common commercial catch for the generally used term “squid”. Groupers, snappers and sweetlips are among the most valuable fish, as well as the blue swimmer crab. Subsistence catches include bream, paradise whiptails and rabbit fish. A more comprehensive list is presented in *Appendix 4*.

4. Market orientation and households’ consumption

Fisheries products are mainly sold to a middle man/woman within the community and do not seem to be directly sold much further than the provincial level, mainly Kampong Som. A percentage of the catch is usually kept for family consumption.

5. Perception of fisheries resource conditions

A great majority of community members, all communities taken together, responded that the catch quantities had decreased since their settlement in the area. In Daem Thkov, 47% of fishermen stated a 90% catch decrease.

However, the creation of KRS CFA showed some positive results. When asked to compare the amount of fish caught between summer 2009 (introduction of the Community Fishing Area -CFA- and protection of certain reefs and areas) and today, the results show that 24,4 % of the interviewed fishermen from KRS CFi stated that they had seen an increase in catches. Still, this question needs to be better studied and would need further investigation with more factors taken into account. Indeed:

- The species was not specified in the question. The fishermen could have related his answer to a population that will need more time to recover, such as groupers.
- An increase in fisheries resources in the area brought more people in. Thus, the fishermen could have faced an increase in competition for the same species. As an example, in 2010, KRS CFA suffered from an increase in fishermen from outside attracted by the increase the population of blue swimmer crab. As a result, fishermen from the community saw a decrease in their own catches.

d. Threats and Issues to marine resources & perceived resource-use conflicts

Perceived threats and issues to marine resources and habitats, to fishing activities/management and resource-use conflicts were largely discussed during the interviews. Predefined and open answers were recorded. The results show that the main issues were:

- **Trawling boats** “from Kampong Som” that «catch the fish and the squid », « destroy traps », « cause fish size to decline », “destroy marine resources and habitats but also local people’s fishing gears” constitute the most recorded issue.

- **Illegal Vietnamese boats** “using chemicals and poison to destroy the fish”, which “put their gasoline in the sea”, use “bombs, explosive, destructive fishing gears” come second with 21% of answers recorded. “Flying nets” and “motorized push nets” were mentioned in Daem Thkov.
- **Increase in fishermen from outside** coming fishing in the area seems was frequently cited. “Fishermen have the same boats and a lot of boats”, “there are so many traps” and they “work too close to each other”. This constitutes an important comment to be taken into account for future fisheries management plan of the area.
- **“Big Boats with lamps”** (“light fishing”) were also mentioned as “going fishing near the island” and contributing to the decrease of fisheries in the area. However, it has been observed that over the past years, these boats have tended to operate further away from the island and no longer come within the CFA.
- **Conflicts with “foreigners”**, “unknown people” and “divers” were cited by a few people in Daem Thkov, Koh Toch and KRS, saying that “Barangs destroy the traps” and that “low fishing was caused by foreigners”, referring to dive operators from Sihanoukville cutting the traps found underwater.
- **Sand dredgers** operating in the area were frequently cited in Daem Thkov and blamed for “making the water dirty” and “causing the squid to decrease”.
- Finally, **changes in weather patterns** (that we could generally translate by “climate change”) were also mentioned as a cause for the decrease in fisheries with “bad weather”, “big winds”, “too big waves” that seem to have been increasing over the past years: “before there were no big waves, it was better for fishing”.

Lack of/poor law enforcement was cited as one of the main issues related to coastal and fisheries management, as well as **lack of funding, human resources and technical support** (equipment e.g. patrol boats).

e. Tourism

Tourism has developed very differently in the communities: while KRS, for instance, has been developing marine ecotourism as an alternative source of revenue to fishing over the past four years, Daem Thkov is yet to see tourism flourish.

Discussions with groups of inhabitants of all four villages show that people were willing to open to sustainable tourism as a complementary/alternative livelihood option to fishing, focusing on cultural and marine assets that they community could offer. Yet, a great number of people expressed concerns about tourism impacts on culture and traditions, especially on younger generations. In Koh Toch, inappropriate sexual behaviors on the beach were often mentioned along with the fear of local teenagers starting to “copy the visitors”. A woman told us: *“I don’t want my daughter to work at the bungalows because I am scared”*.

Furthermore, a significant majority of residents, in Koh Rong Samloem CFi and Koh Toch especially, were concerned about the role of foreign-owned/Sihanoukville-based businesses operating within their community. Indeed, it seemed that no one among the interviewees had any clear idea neither on how much profit the companies make from tourism, nor on how much of that profit was put back into the community. People were also concerned about a phenomenon of “dependence” toward businesses that provide some residents with salary in exchange of ensuring a certain control over the community area. Talking about the main business operating in his village, a resident of Koh Rong Samloem CFi stated: *“He [the business’ owner] is very smart: he knows how to make cakes using people’s flour!”*

Conclusion

Koh Rong and Koh Rong Samloem are a perfect illustration of the challenges and issues faced by small coastal communities. Yet, along with the Cambodian islands being developed for tourism, the area also illustrates the great potential of livelihood improvement through marine and cultural ecotourism. The creation of a Marine Fisheries Management Area (MFMA) around both islands shall anticipate several challenges:

- The predominant ***use of destructive fishing techniques*** (bottom-weighted gillnets/crab nets) by community members in Koh Toch. Given the fact that such fishing gears will not be allowed within the MFMA, a change in fishing habits and the introduction of sustainable fishing techniques shall be anticipated and enforced.
- The presence of ***illegal fishing*** especially inshore trawling, as well as ***foreign poaching***, especially at night time, which makes it difficult and dangerous to tackle. Strict law enforcement, material resources and capacity building are increasingly needed to crack down on these illegal activities.
- ***Future development of the islands***: environmental impacts will need to be clearly assessed; poorly managed development will cause great environmental damage to the surrounding marine environment (e.g. effect of terrestrial runoff on coral reefs, etc.). Careful planning and involvement of the local residents in the planning process are important in order to minimize the adverse impacts of the development, raise local awareness et enhance capacity building.
- ***Negative impacts of rapid tourism development*** occurring in small, traditional and until recently remote island fishing communities. Despite a great potential of livelihood improvement through marine and cultural ecotourism, it seems that focus has been turned towards immediate profit rather than integrated, sustainable tourism and community development. Relationship between community members and visitors will most likely quickly deteriorate if no actions are taken. Plans to develop a community tourism awareness program, in the form of “code of conduct” posters, would be simple to set up.

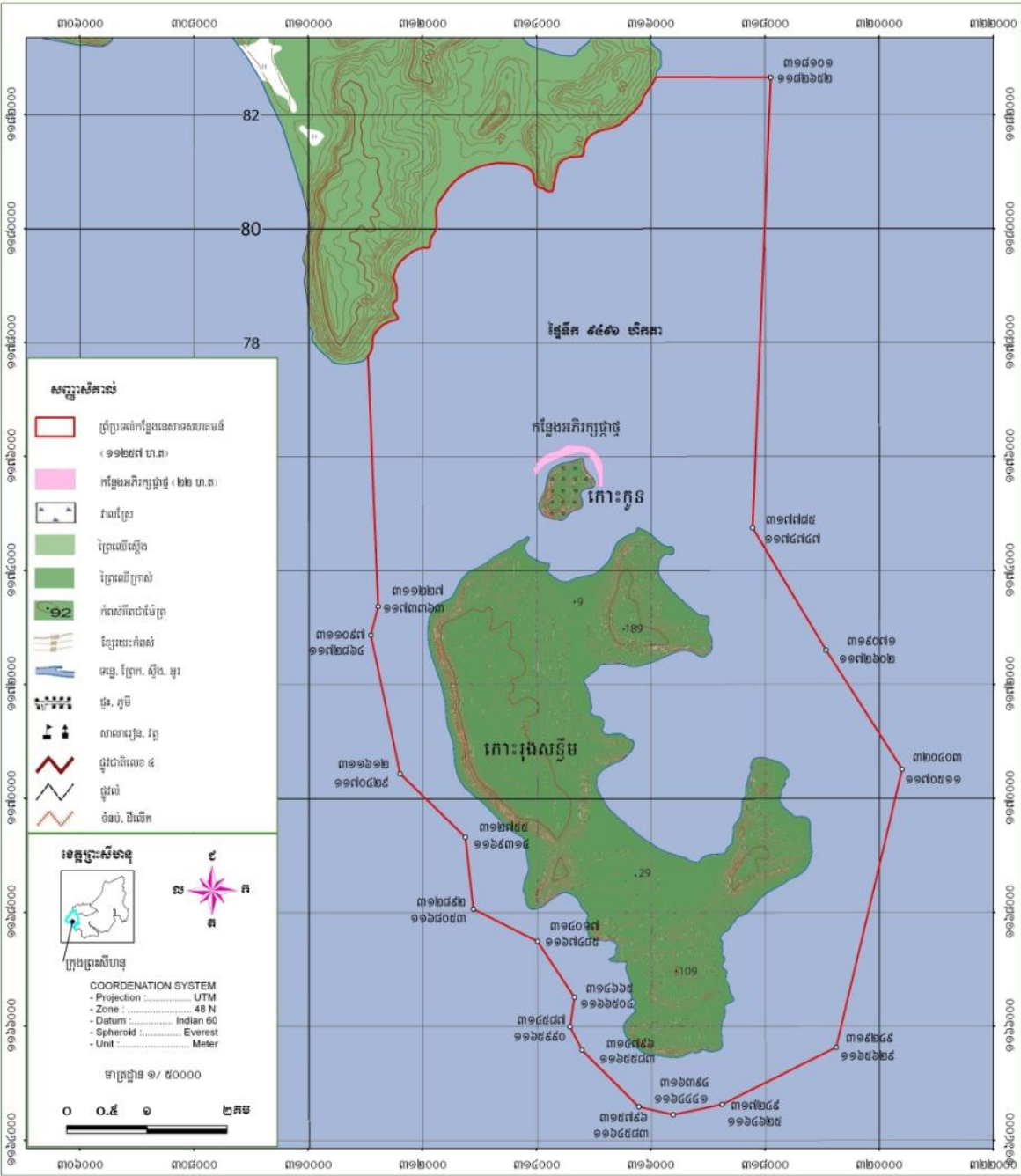
Yet, several protection schemes are already in place; they can be seen as a prelude to the creation of the MFMA:

- An **ongoing protection**, including community patrol groups, in KRS CFA. Illegal fishing records have radically decreased over the past two years. Currently, the major issue is the illegal night time activities which are much more difficult to deal with due to safety concerns.
- A **no-take/replenishing area** ("House Reef") created within KRS CFi in agreement with all fishermen from the CFi, with hope to create a spill-over effect to the other areas. Monitoring has started showing the effectiveness of protection with an increase in biodiversity and fish sizes.
- The creation of a **300 meter no-fishing buffer** around the small island of Koh Kon to protect the reef habitat and allow the replenishing of fisheries stock.
- The creation of a **200 meter buffer "no-take zone"** around the islands of Koh Oun and Koh Bong, managed by Songsaa Private Island Resort.

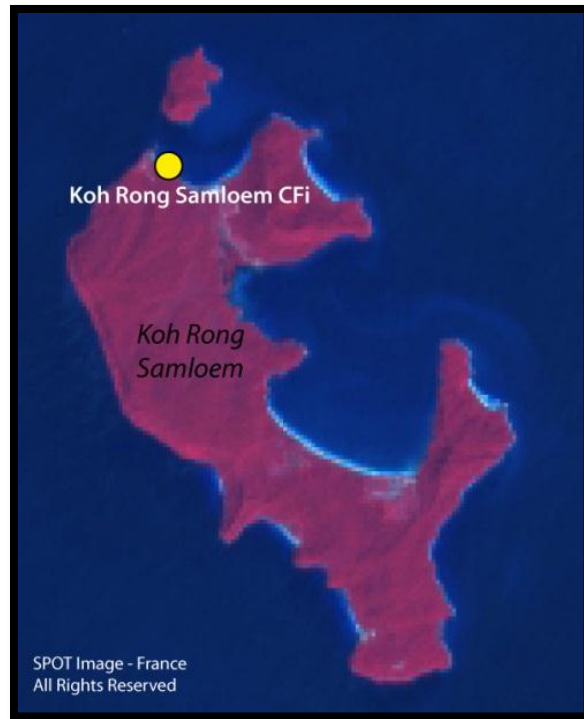
Responsible businesses, contributing to community development by insuring that a part of their revenue generated through the use of local infrastructures (piers, freshwater supplies, etc.) and natural resources (snorkeling, diving, recreational fishing, etc.), would encourage and allow further achievements from the communities in term of marine conservation, fisheries management and ecotourism development. Sustainable ecotourism, if well-managed, can directly contribute to environmental protection and community development through incomes generated by tourism-related businesses. The introduction of Tourism-Based User Fees (TUFs)¹ could be a solution to sustainable financing of the future Marine Fisheries Management Area.

¹ M. Skopal, 2010. *Koh Rong Samloem Community Fishing Area: Feasibility Report and Proposal for the Introduction of Tourism-based User Fees – Initial Draft*. MCC 2010.

Appendix 1 – Map of Koh Rong Samloem Community Fishing Area

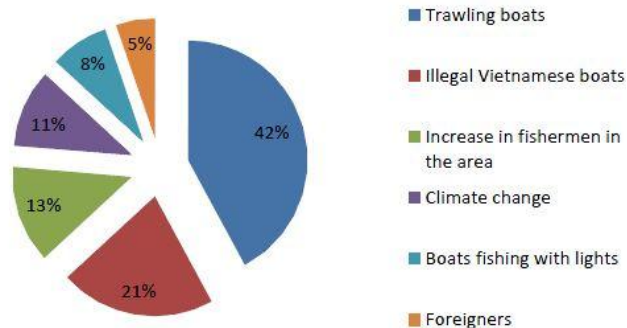


Appendix 2 – Location of the fishing communities living on Koh Rong and Koh Rong Samloem (*Sok San is not officially registered with the Ministry of Interior*)



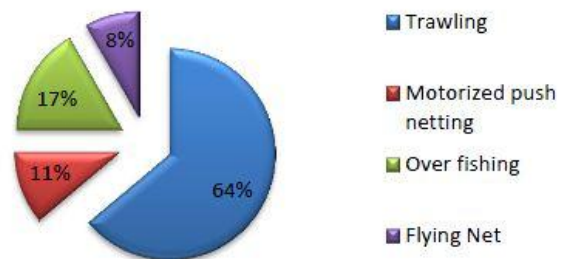
Appendix 3 – Identified threats to marine ecosystem and fisheries resources, per community.

Perceived threats to fisheries resources in the area



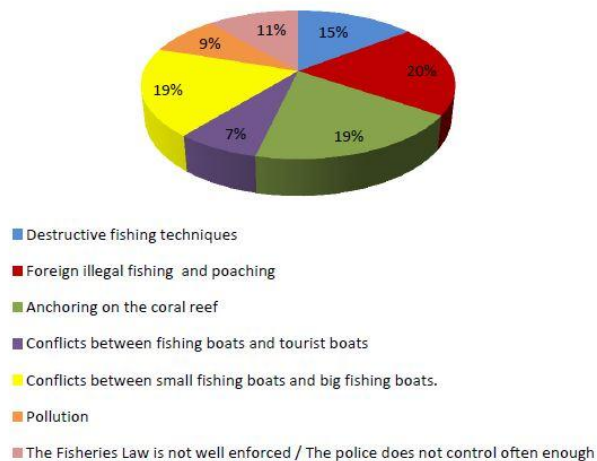
Koh Rong Samloem

Perceived threats / Illegal fishing



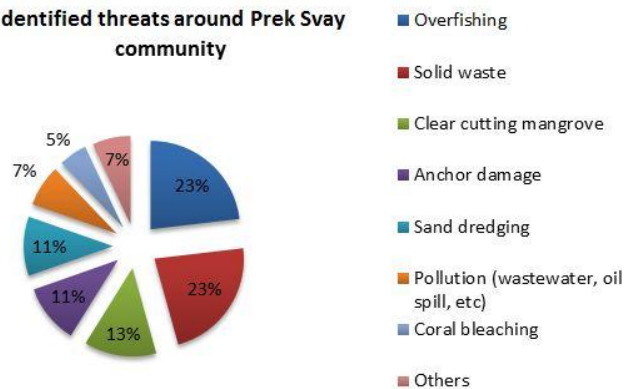
Daem Thkov

What do you think are the main issues that affect fisheries resource/fishing in the area?



Koh Toch

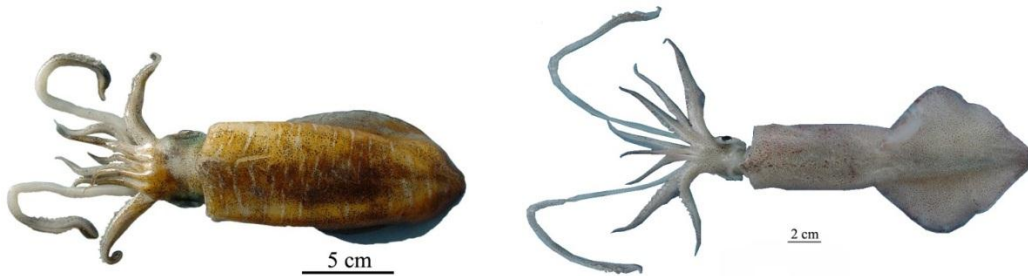
Identified threats around Prek Svay community



Prek Svay

Appendix 4 - Targeted species and most common catches around Koh Rong and Koh Rong Samloem

Squid and Octopus



Big fin reef squid *Sepiotheuthis lessoniana* - Indian squid *Urotheuthis duvaucelii*



Loligo sp. - *Octopus sp.*

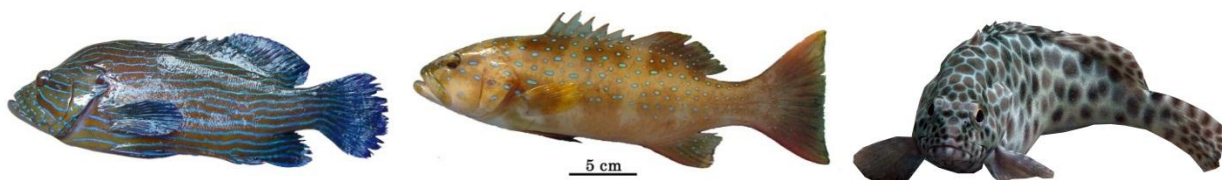
Crab



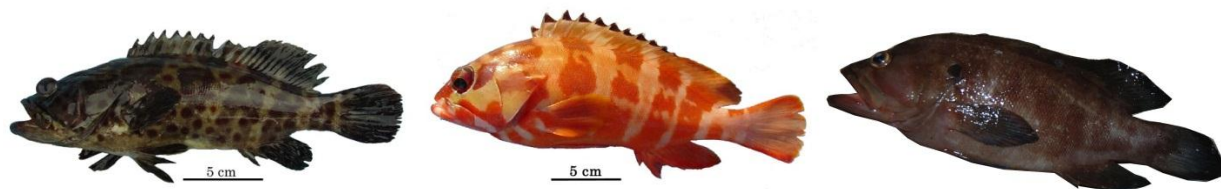
Blue Swimmer Crab *Portunus pelagicus*

Fish

Groupers



Bluelined grouper *Cephalopholis Formosa* – Highfin coral grouper *Plectropomus oligocanthus* – Honeycomb Grouper *Epinephelus merra*



Orangespotted grouper *Epinephelus coioides* - Blacktip grouper *Epinephelus fasciatus* - Chocolate grouper *Cephalopholis boenack*



Areolate grouper *Epinephelus areolatus* – Duskytail grouper *Epinephelus bleekeri* – Sixbar grouper *Epinephelus sexfasciatus*

Snappers



Russel's Snapper *Lutjanus russelli* - Brownstripe snapper *Lutjanus vitta* - John's snapper *Lutjanus johnii*



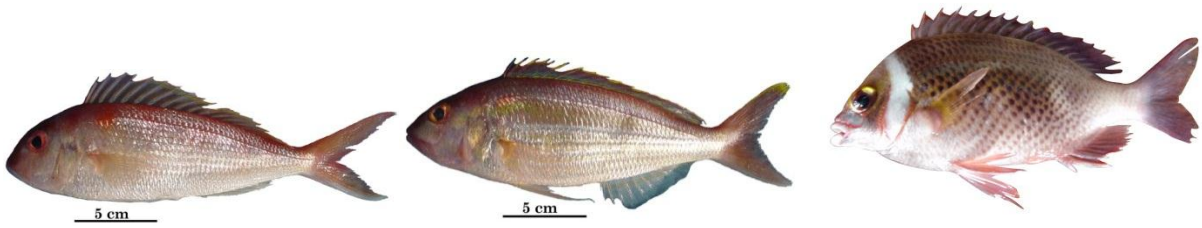
Red snapper

Sweetlips

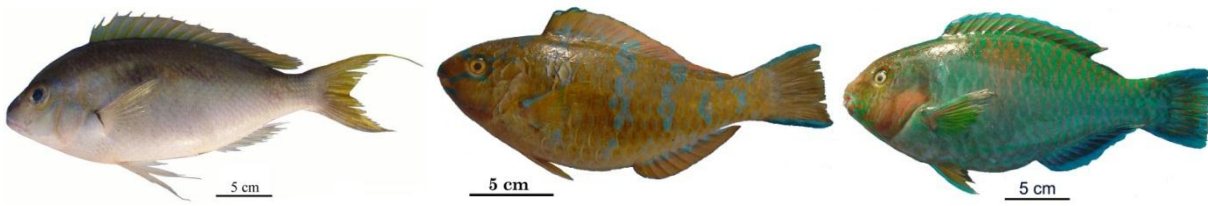


Yellowdot sweetlips *Diagramma pictum* – Harry hotlips *Plectorhinchus gibbosus* – Harlequin sweetlips *Plectorhinchus chaetodonoides*

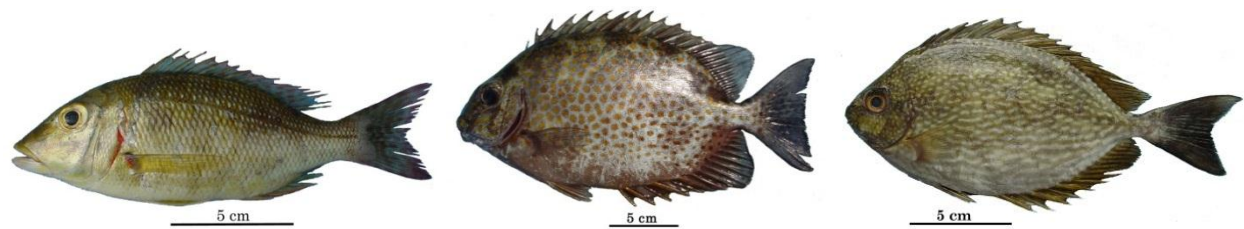
Others



Forktail threadfin bream *Nemipterus furcosus* - Teardrop threadfin bream *Nemipterus isacanthus* - Whitecheek monocle bream *Scolopsis vosmeri*



Rainbow Monocle Bream *Scolopsis monogramma* - Yellowscale parrotfish *Scarus ghobban* - Quoy's parrotfish *Scarus quoyi*



Pinkear emperor *Lenthrinus Lentjan* - Goldenspotted spinefoot *Siganus guttatus* - Silver spinefoot *Siganus argenteus*



Doublebarred spinefoot *Siganus virgatus*



Paradise whiptail *Pentapodus paradiseus*